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(19) (CA) **APPLICATION FOR CANADIAN PATENT** (12)

(54) Cat Litter Disposal System

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(57) 17 Claims

Notice: The specification contained herein as filed

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ABSTRACT

A litter disposal system is disclosed providing an improved system for the handling and disposal of cat litter. The system comprises a means of containment, a means of l...ing with a drawstring and a means of  
5 locking the drawstring. The system reduces the risk of dispersement of used cat litter by the cat during use and the physical handling of used litter by the owner during the disposal process. The disposable components of the system may be constructed of biodegradable materials.

## Cat Litter Disposal System

### Technical Field

This invention relates to a litter disposal system to provide the cat owner with an effective and efficient way of handling and disposing of cat  
5 litter without physical contact with the litter.

### Background Art

There are many containment systems for cat litter which allow for disposal of cat litter. The ease and convenience of disposal is, however, minimized when the used material must be further handled during  
10 disposal. Handling of the litter occurs when the litter must be physically transferred from one container to another for disposal or from the natural actions of the cat which disperse the litter from its intended place of containment during use or during the cat's entry or exit to the container.

The physical handling of cat litter is potentially dangerous to the  
15 health of humans and especially pregnant women when the microorganism *Toxoplasmosis Gondii* is present in the feces of cats. This protozoan can be transmitted either through direct or indirect handling of cat feces, and while hand washing can greatly reduce the risk of infection, it remains highly contagious. Container and disposal systems currently available do  
20 not include features which adequately reduce the risk of handling the used

highly contagious. Containers and disposal systems currently available do not include features which adequately reduce the risk of handling the used litter during the disposal process. Therefore, despite a great need for this form of container and disposal system heretofore, no container or disposal  
5 system has been available that reduces the risk of handling cat litter that this invention does.

#### Summary of the Invention

It is the object of the invention to provide a litter disposal system which results in easier, safer and less unpleasant handling of cat litter.

10 It is a further object of the invention to provide a litter disposal system comprising both disposable and non-disposable components where the disposable elements are biodegradable in order to promote more rapid breakdown of the discarded waste.

It is a further object of the invention to eliminate the risk  
15 associated with physical handling of used cat litter by the cat owner.

It is a further object of the invention to provide leak proof components.

It is a further object of the invention to reduce the risk of spilling the used contents of the litter disposal system by both the cat during use  
20 and the owner during disposal.

It is a further object of the invention to require no cleaning of the litter and the disposable and non-disposable elements of the invention.

In accordance with the present invention, a litter disposal system is provided comprising a means of containment of animal litter where said means has a bottom, sides and an open top, a flexible and removable means of lining the inside surface of said containment means, said lining means having an opening large enough to surround said containment means and having a drawstring around said opening, and a means of locking said drawstring, said locking means being adapted to selectively secure said drawstring in a fixed position firmly around the outer surface of the containment means adjacent the open top thereof, or to release said drawstring to permit removal of said lining means from the containment means.

#### Description of the Drawings

Fig. 1 is a cross-sectional view of the containment means of the preferred embodiment of the invention.

Fig. 2 is a side view of the lining means of the invention.

Fig. 3 is a cross sectional view of one embodiment of the containment means with sloping sides of the invention.

Fig. 4 is an isometric view of a wire frame embodiment of the invention.

Fig. 5 is an exploded cross-sectional view of the locking device of the preferred embodiment of the invention.

Detailed Description of the Invention

Figure 1 is a cross sectional view of the containment means of the system of a preferred embodiment of the present invention. Figure 2 is a side view of the lining means of the invention.

5           The litter disposal system 10 comprises a containment means 12, preferably made of durable plastic, with a bottom 14, sides 16 and an open top 18. An outwardly projecting continuous lip 20 is around the perimeter of the upper edge 22 of the box sides 16. A lining means 24, preferably constructed of flexible and biodegradable plastic and having an opening 26  
10       and a drawstring 28 is placed over the containment means 12 such that the opening 26 and drawstring 28 surround the outer edge of the lip 20 and are below said lip 20. The drawstring 28 surrounds the opening 26 at its edge contained within a hem 30 at the opening 26 projecting through an opening 32 in the hem 30. A locking means 34 is placed on said drawstring  
15       28, the locking means 34 being such that tightening the drawstring 28 around opening 26 surrounding the outer edge of the lip 20 as described above, and securing the locking means 34 in place on the drawstring immediately adjacent the drawstring opening 32 restricts the perimeter length of the opening 26 below that of the perimeter length of the lip 20  
20       thereby preventing it from rising above the lip 20. The locking means 34 is preferably constructed of inexpensive plastic material.

In another embodiment (Figure 3), the containment means 12 has

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outwardly projecting sides 16 such that tightening the drawstring 28 as described above around the sides 16 of the containment means below the upper edge of the sides 16 and securing the locking means 34 in place on the drawstring immediately adjacent the drawstring opening 32 restricts the  
5 perimeter length of the opening 26 below that of the perimeter length of the upper edge of the sides 16, thereby preventing it from rising above the upper edge of said sides 16.

In still another embodiment, the structural components of the containment means 12 are constructed of a wire frame (Figure 4)  
10 comprising vertical and horizontal supports to define the outer edges of the containment means 12 in a form as described above, thereby permitting tightening of the drawstring 28 as described above.

The locking means 34 will be further described below, with reference to Fig. 5 which shows an exploded cross-sectional view of the  
15 locking means 34.

The locking means comprises a hollow cup 40 having a pair of opposed holes 42 in facing relationship to one another formed in the surrounding sidewall thereof, a bottom 44, and an open top 48. a plunger member 46 positioned in said cup 40 and sized for relative axial movement  
20 through the open top 48 in close fitting engagement with said cup 40, with said plunger member 46 having a bore 50 extending transversely therethrough positioned to move into and out of alignment with said holes 42 in a direction normal to the axis of said cup 40 and plunger member 46

as said plunger member is moved axially in said sleeve between a first position wherein said hole 50 and holes 42 are aligned and a second position wherein said bore 50 and holes 42 are not aligned, said plunger 46 having an outwardly projecting shoulder 52 located on the first end portion 54 thereof positioned externally of said cup 40 and sized to cover the open end 48 of said cup 40 and prevent said plunger 46 from entering into said cup 40 beyond said first position, and a bias means 54 in said cup 40 for urging said cup 40 and said plunger member 46 into said second position.

Separation of plunger member 46 from said cup 40 is prevented by insertion of the drawstring 28 through said holes 42 and bore 50 when in said first position.

Normal assembly and operation of the system would proceed according to the following general guidelines. The cat owner would place the lining means 24 within the containment means 12 and tighten the drawstring 28 around the sides 16 or lip 20 of the containment means 12 as described above. The locking means 34 would be secured against the drawstring 28 also as described. The cat owner would place an appropriate amount of clean litter within the lining means 24 for use by the cat. At the time for disposal, the owner would release the locking means 34, thereby enabling the perimeter length of the opening 26 to become greater than the perimeter length of the lip 20. The cat owner would grasp the hemmed region of the lining means 24 and move it upwards and away from the containment means 12. Grasping the



drawstring 28 outside the drawstring opening 32 and lifting upwards causes the lining means opening 26 to constrict as a greater proportion of the drawstring 28 is pulled from within the hem 30 of the lining means 24. At the point of maximum constriction the locking means 34 is secured

5 immediately adjacent the drawstring opening 32 to prevent re-opening of the lining means opening 26. The lining means 24 containing the used litter and locking means 34 is ready for clean and efficient disposal in conventional receptacles.

A new lining means 24 and locking means 34 would then be

10 assembled on the containment means 12 to repeat the process.

The above guidelines are intended to provide an indication as to normal operation of the system and not to limit the scope of the invention.

Claims

1. A litter disposal system comprising:

a means of containment of animal litter where said means has a bottom, sides and an open top,

5 a flexible and removable means of lining the inside surface of said containment means, said lining means having an opening large enough to surround said containment means and having a drawstring around said opening,

10 and a means of locking said drawstring, said locking means being adapted to selectively secure said drawstring in a fixed position firmly around the outer surface of the containment means adjacent the open top thereof, or to release said drawstring to permit removal of said lining means from the containment means.

- 15 2. A system as defined in claim 1, wherein said means of containment of animal litter is an open box with an outwardly projecting continuous lip around the perimeter of the upper edge of the box sides.

3. A system as defined in claim 1, wherein said means of containment of animal litter is an open box with outwardly sloping sides.
4. A system as defined in claim 1, wherein said means of containment of animal litter is a wire frame box.
- 5 5. A system as defined in claim 1, wherein said means of lining is a plastic bag with a drawstring.
6. A system as defined in claim 1 wherein said means of lining is a biodegradable plastic bag with a drawstring.
7. A system as defined in claim 1, wherein said locking means is a plastic clasp.
- 10 8. A system as defined in claim 1 where said locking means is a cord clamp comprising:  
  
a hollow sleeve having a pair of opposed holes in facing relationship to one another formed in the surrounding sidewall thereof  
  
a plunger member positioned in said sleeve and sized for relative axial movement through said opening, said plunger member having
- 15

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5 a bore extending transversely therethrough positioned to move into and out of alignment with said holes in a direction normal to the axis of said sleeve and plunger as said plunger member is moved axially in said sleeve between a first position wherein said bore and holes are registered in alignment and a second position wherein said bore and holes are not aligned, and

bias means in said sleeve for urging said sleeve and said plunger member into said second position.

9. A system as defined in claims 2, 3 or 4 wherein said means of lining  
10 is a plastic bag with a drawstring.

10. A system as defined in claims 2, 3 or 4 wherein said means of lining is a biodegradable plastic bag with a drawstring.

11. A system as defined in claims 2, 3 or 4, wherein said locking means is a plastic clasp.

12. A system as defined in claims 2, 3 or 4 wherein said locking means  
15 is a cord clamp comprising:

a hollow sleeve having a pair of opposed holes in facing relationship

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to one another formed in the surrounding sidewall thereof

5 a plunger member positioned in said sleeve and sized for relative axial movement through said opening, said plunger member having a bore extending transversely therethrough positioned to move into and out of alignment with said holes in a direction normal to the axis of said sleeve and plunger as said plunger member is moved axially in said sleeve between a first position wherein said bore and holes are registered in alignment and a second position wherein said bore and holes are not aligned, and

10 bias means in said sleeve for urging said sleeve and said plunger member into said second position.

13. A system as defined in claim 9, wherein said locking means is a plastic clasp.

14. A system as defined in claim 10, wherein said locking means is a plastic clasp.

15. A system as defined in claim 9 wherein said locking means is a cord clamp comprising:

a hollow sleeve having a pair of opposed holes in facing relationship to one another formed in the surrounding sidewall thereof

5 a plunger member positioned in said sleeve and sized for relative axial movement through said opening, said plunger member having a bore extending transversely therethrough positioned to move into and out of alignment with said holes in a direction normal to the axis of said sleeve and plunger as said plunger member is moved axially in said sleeve between a first position wherein said bore and holes are registered in alignment and a second position wherein  
10 said bore and holes are not aligned, and

bias means in said sleeve for urging said sleeve and said plunger member into said second position.

16. A system as defined in claim 10 wherein said locking means is a cord clamp comprising:

15 a hollow sleeve having a pair of opposed holes in facing relationship to one another formed in the surrounding sidewall thereof

a plunger member positioned in said sleeve and sized for relative axial movement through said opening, said plunger member having

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a bore extending transversely therethrough positioned to move into and out of alignment with said holes in a direction normal to the axis of said sleeve and plunger as said plunger member is moved axially in said sleeve between a first position wherein said bore and holes are registered in alignment and a second position wherein said bore and holes are not aligned, and

bias means in said sleeve for urging said sleeve and said plunger member into said second position.

17. A litter disposal system comprising:

a means of containment of animal litter wherein said means has a bottom, sides, and open top with continuous lip around the perimeter of the upper edge of the box sides, a flexible and removable means of lining the inside surface of said containment means, said lining having an opening large enough to surround said containment means and having a drawstring around said opening and is a plastic bag with a drawstring, a means of locking said drawstring where said means is a plastic clasp,

said locking means being adapted to selectively secure said drawstring in a fixed position firmly around the outer surface of the containment means adjacent the open top thereof, or to release said

drawstring to permit removal of said lining means from the containment means.

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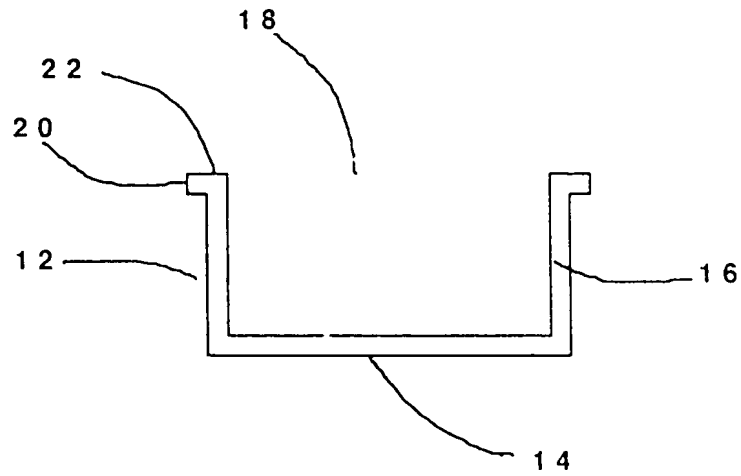
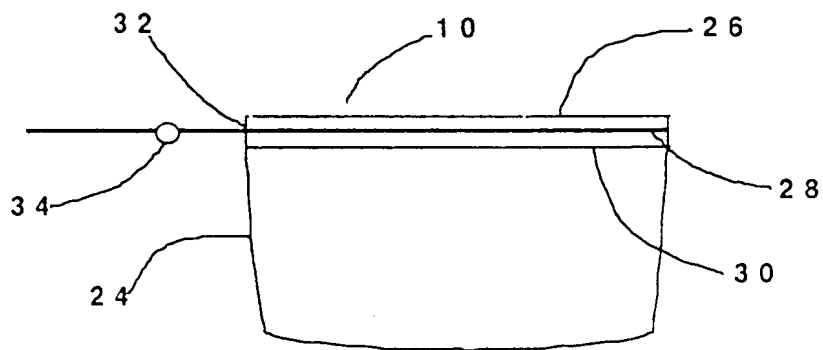
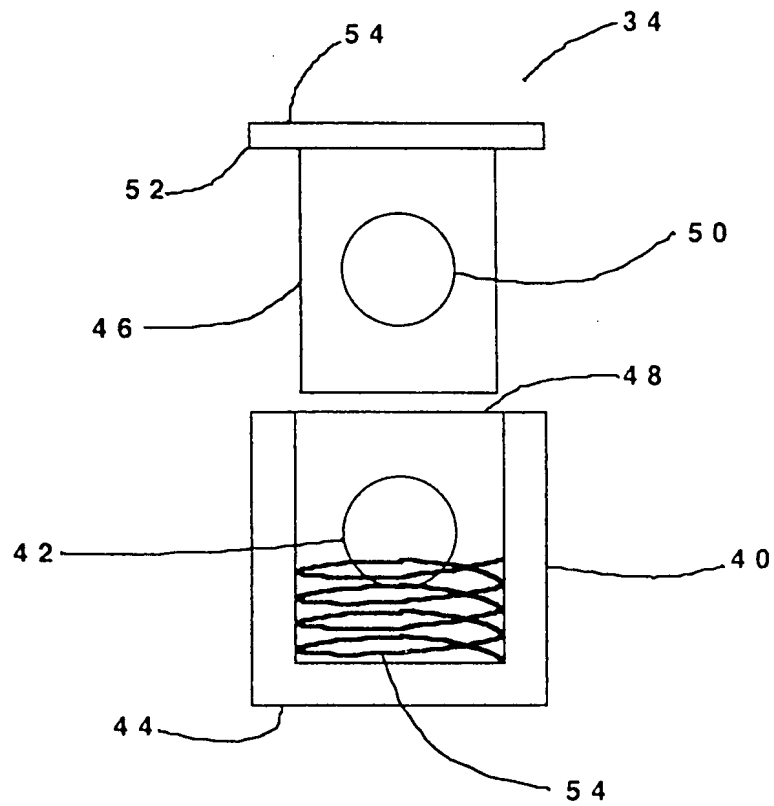
**FIGURE 1****FIGURE 2**

FIGURE 5



Gowling, Strathy & Henderson